GIS SPECIALIST

DEFINITION

To perform applications design, analysis, and database development utilizing geographic information system (GIS) technology; to perform a variety of GIS functions in the office and field including operating and maintaining the GIS system, developing and maintaining digital base maps, developing and updating GIS databases and applications; and to provide GIS services to staff and supporting system users.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the Applications Support Manager and technical and functional guidance from a Lead Programmer/Analyst.

ESSENTIAL FUNCTIONS – Functions may include, but are not limited to, the following:

Perform geographic analysis as needed to create map databases and information needed for decision making; create spatial/surface analysis using a variety of modules and GIS software.

Research, create, quality check, maintain and disseminate GIS data layers; use data sources such as digital CAD files, digitized maps and orthophotos to create and maintain layers; create and maintain metadata.

Create programs and code to solve GIS related problems and present data in a user-friendly format using specified programming languages and applications such as, Arc Macro Language (AML), SQL, Visual Basic (VB), .NET, Python, ArcIMS, ArcVIEW, and ACCESS among others, to automate GIS processes.

Analyze user requirements and design and develop applications for end-users including data entry screens, inquiry screens and reports for various departments.

Create hard copy and digital maps using GIS methods, cartographic skills, basemaps and other data including reports, charts and tables.

Train and provide technical direction to users and operators on GIS software and/or customs applications; install applications and resolve user problems; write documentation for utilizing GIS software and applications; develop system documentation and user guides.

Provide GIS maps, data, analysis and services to City staff, other agencies, consultants, and the public.

Attend and participate in professional group meetings; stay abreast of new trends and innovations in the field of geographic information systems and computing.

Perform system backups and other system maintenance operations on the GIS.

Organize work, set priorities and follow up to ensure coordination and completion of assigned work.

Build and maintain positive working relationships with co-workers, other City employees and the public using principles of good customer services.

Perform other related duties as assigned.

MINIMUM QUALIFICATIONS

Knowledge of:

Principles and practices of GIS systems, uses and applications, including hardware and software applications.

Research methods and techniques related to collecting, analyzing, and evaluating geographic/land use related data.

Methods and techniques used in recording and conducting analyses of land use, planning and engineering as relates to geographic information, including cartography and the basic symbols and terminology used in mapping.

Methods and techniques used for interpreting maps of various media and digitizing data for conversion to GIS usable formats.

Fundamental computer programming concepts and methods.

Mathematics.

English usage, spelling, grammar, and punctuation.

Ability to:

Use and understand GIS tools (specifically ESRI products such as ArcView, ArcGIS, ArcIMS and ArcPAD) and methodologies to operate a variety of geographic information system input and output devices, including digitizing boards, scanners, printers, plotters and other GIS related peripheral equipment/devices in a Windows environment.

Create maps and charts from multiple layers of data; create and maintain geographic databases.

Prepare analyses using various related geographic information system software.

Review a variety of geographic and mapping data and develop logical conclusions and solutions; define user needs and make recommendations.

Create applications using languages such as Visual Basic, HTML, ASP, and AML.

Adapt to ongoing technological developments and advancements.

Prioritize and coordinate several work activities; research, organize, and maintain accurate office files.

Use initiative and sound independent judgment within established guidelines.

Make mathematical computations.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain effective working relationships with those contacted in the course of work.

Work with various cultural and ethnic groups in a tactful and effective manner.

Experience and Training

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

Two years of responsible GIS experience including analysis, design, development, and programming of GIS applications and databases.

Training:

Equivalent to a Bachelor's degree from an accredited college or university with major course work in geography, urban planning, computer science or closely related field with emphasis in geographic information systems (GIS).

License or Certificate

Possession of a valid California driver's license.

PHYSICAL DEMANDS

On a continuous basis, sit at desk for long periods of time. Intermittently twist and reach office equipment above and below shoulders; use telephone, write or use keyboard to communicate through written means; use a computer keyboard on a regular and continuing basis; may lift up to 25 pounds. See in the normal vision range with or without correction to read typical business documents and computer screens; hear in the normal range with or without correction.

WORKING ENVIRONMENT

Some of the work is performed indoors in a carpeted and air-conditioned office environment with fluorescent lighting and moderate noise level. There is exposure to outside atmospheric conditions, traffic, and noise when going to meetings or outlying offices/buildings or conducting field work. Work is frequently disrupted by the need to respond to in-person and telephone inquiries.

4/05